REMARKS

This response is submitted in reply to the Office Action dated March 20, 2006. Claims 1, 2, 4-13 and 15-20 currently stand rejected. Applicant respectfully traverses.

In light of the remarks presented below, Applicant respectfully requests reconsideration and allowance of all now-pending claims of the present application.

Claim Rejections - 35 U.S.C. §103

Claims 9-11 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Moriyama (U.S. Patent No. 6,314,144) in view of Takahashi (U.S. Patent Application Publication No. 2002/0183028). Claims 1, 2, 4, 5, 7, 8, 12, 13, 15, 16, 19 and 20 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Moriyama in view of Takahashi and further in view of Menkoff (U.S. Patent No. 6,822,692).

Independent claims 1, 9 and 12 recite, *inter alia*, that a first filter output is proportional to the magnitude of the interference signal when the interference signal is greater in magnitude than the target signal. In other words, when the magnitude of the interference signal is greater than that of the target signal, the first filter output is proportional to the magnitude of the interference signal.

The Office Action admits that the above recited feature is not taught or suggested in Moriyama. However, the Office Action cites Takahashi as curing the admitted deficiency of Moriyama. Specifically, the Office Action alleges that the feature listed above is disclosed at Figure 6, block 111 and paragraphs [0044] and [0045] and Figures 8A and 8B and paragraphs [0050] to [0056] of Takahashi. Applicants respectfully disagree with this analysis.

Takahashi is directed to a gain controlling method. In this regard, Takahashi discloses only that amplification is changed based on a comparison of an absolute electric field including desired and noise signals to a target value. In other words, amplification is not adjusted to be proportional to the interference signal when the interference signal is greater than a target signal as in the claimed invention. Specifically, Takahashi discloses that an absolute electric field intensity calculator (111) calculates an absolute electric field intensity of a desired signal which

includes signal (S) and noise (N) components (paragraph [0044], lines 1-4). In this regard, Takahashi discloses that an interference canceller 106 cancels out the interference value from the received signal to produce the desired signal which lacks the interference signal. Takahashi then discloses that a determination section (112) determines the relationship between the absolute electric field intensity of the desired signal and a target value t (paragraph [0045], lines 1-4). A gain coefficient calculator 113 than outputs a gain adjustment based on the relationship determined above (paragraph [0046]). The gain adjustment either adds to or subtracts from an existing gain coefficient (paragraph [0046]).

Thus, it is quite clear from Takahashi that the interference signal is in fact canceled out and not used in determining filter output. Rather, filter output in Takahashi is determined based on a calculated gain coefficient that is calculated based on a relationship between a field intensity value **from which the interference value has been removed** (i.e. the absolute electric field intensity of the desired signal) to a target value. Thus, Takahashi fails to teach or disclose <u>a first filter output proportional to the magnitude of the interference signal when the interference signal is greater in magnitude than the target signal</u> as claimed in independent claim 9.

This deficiency is made even clearer in light of the further teachings of Takahashi. For example, as clearly described in paragraphs [0050] to [0056], FIG. 8A indicates a case in which absolute electric field intensity of the desired signal (which as stated above lacks an interference portion) is more than the target object t, and FIG. 8B indicates a case in which absolute electric field intensity of the desired signal (which as stated above lacks an interference portion) is less than the target object t. Thus, in both cases, the interference signal is irrelevant to the operation of the gain controlling method of Takahashi. As stated in Takahashi, "the gain coefficient is calculated based on electric field intensity of the signal where the interference signal is removed from the received signal" (paragraph [0055], lines 1-3).

Moreover, since the case shown in Figure 8A relates to a situation in which the absolute electric field intensity of the desired signal is more than the target object t (paragraph [0050], lines 4-6), this means that the gain correction will be added as described in paragraph [0047] at lines 1-5, thereby increasing gain. However, Figure 8A shows the interference signal is less than the desired signal. In other words, when the interference signal is less than the desired signal as

shown in Figure 8A, gain correction will be added according to Takahashi. Thus, contrary to the claimed invention in which <u>a first filter output is proportional to the magnitude of the</u> <u>interference signal when the interference signal is greater in magnitude than the target signal</u>, Takahashi discloses that gain and thus output will increase when the interference signal is **less** than the desired signal.

Meanwhile, since the case shown in Figure 8B relates to a situation in which the absolute electric field intensity of the desired signal is less than the target object t (paragraph [0050], lines 6-9), this means that the gain correction will be subtracted as described in paragraph [0047] at lines 5-9. However, Figure 8B shows that the interference signal is greater than the desired signal. In other words, when the interference signal is greater than the desired signal as shown in Figure 8B, gain correction will be subtracted according to Takahashi. Thus, contrary to the claimed invention in which <u>a first filter output is proportional to the magnitude of the</u> <u>interference signal when the interference signal is greater in magnitude than the target signal</u>, Takahashi discloses that gain and thus output will decrease when the interference signal is greater than the desired signal. Thus, it is respectfully submitted that the Examiner has viewed Figures 8A and 8B in isolation and not in view of the clear teaching of Takahashi and has therefore misconstrued Takahashi. Thus, Takahashi fails to teach the above recited claimed features.

Menkoff is directed to a digital filter having a series connected filter components. Menkoff fails to teach or suggest <u>a first filter output proportional to the magnitude of the</u> <u>interference signal when the interference signal is greater in magnitude than the target signal</u> as claimed in independent claims 1, 9 and 12, and is not cited as such.

Since Moriyama, Takahashi and Menkoff each fail individually to teach or suggest <u>a first</u> <u>filter output proportional to the magnitude of the interference signal when the interference signal</u> <u>is greater in magnitude than the target signal</u> as claimed in independent claims 1, 9 and 12, any combination of the cited references likewise fails to render independent claims 1, 9 and 12 obvious for at least the same reasons described above. Thus, independent claims 1, 9 and 12 are patentable over the cited references. Claims 2, 4-8, 10, 11, 13 and 15-20 depend either directly or indirectly from respective ones of the independent claims 1, 9 and 12, and thus include all the

recitations of their respective independent claims. Therefore, dependent claims 2, 4-8, 10, 11, 13 and 15-20 are patentable for at least those reasons given above for independent claims 1, 9 and 12.

Accordingly, for all the reasons stated above, Applicant respectfully submits that the rejections of claims 1, 2, 4-8, 12, 13 and 15-20 are overcome.

CONCLUSION

In view of the remarks submitted above, it is respectfully submitted that the present claims are in condition for immediate allowance. It is therefore respectfully requested that a Notice of Allowance be issued. The Examiner is encouraged to contact Applicant's undersigned attorney to resolve any remaining issues in order to expedite examination of the present invention.

It is not believed that extensions of time or fees for net addition of claims are required, beyond those that may otherwise be provided for in documents accompanying this paper. However, in the event that additional extensions of time are necessary to allow consideration of this paper, such extensions are hereby petitioned under 37 CFR § 1.136(a), and any fee required therefore (including fees for net addition of claims) is hereby authorized to be charged to Deposit Account No. 16-0605.

Respectfully submitted,

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